

November 30, 1970

SUBJECT: Industrial Waste Lagoons, William Dick Property
West Caln Township, Chester County

TO: Carl L. Mease
Assistant Attorney General
Office of Legal Counsel

Thru: Director, Division of Community
Environmental Services

Groundwater Geologist, Division
of Water Quality

FROM: F. Glade Loughry, Ph. D.
Chief, Soil Science Unit
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Carlyle Westlund
Geologist
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On November 20, 1970 we revisited the William Dick lagoons to check reported deterioration of the repaired section of the berm of lagoon # 2. The inspection was made in cool wet weather with showers.

Present in the field were: Harry Elston, Director of Pollution Control; Morris Holman, Engineer; and Daniel Flaherty, Attorney representing Chemical Lehman Tank Lines Incorporated, and the following Pennsylvania Department of Health employees: Richard Pastor, Water Pollution Control Specialist; Carlyle Westlund, Geologist; and F. Glade Loughry, Ph. D., Soil Scientist.

The section of the berm of lagoon # 2 where the break had occurred last summer showed longitudinal cracks in its crest near the tops of both side slopes.

These appear as narrow slump cracks due to settling of the earth fill. There is no visible vertical slippage as yet. The crack on the lower side has opened about one-fourth inch. The one on the upper side has opened about one-eighth inch. The crack on the lower side and part of the top of the fill had been covered with sheets of plastic to prevent infiltration of rainwater.

Measurement of slopes indicate that final slopes of the repaired section are steeper than accepted standards for slope stability for earth dams, and steeper than the original berm.

Two slope measurements on the lower side of the repaired section were 65 percent and 58 percent respectively. On the inside the slope measured 27 percent and 28 percent from the crest to the water level.

Measurements on the old berm east of the break were 34 percent and 33 percent on lagoon # 2. Similar measurements on lagoon # 3 are 33 percent for the lower slope and 40 percent for the inside slope which has been slightly notched by wave action.

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West of the former break on lagoon # 2 the outside slope is 37 percent and the inside slope 33 percent. All of these measurements on old sections of the berm are approximately 1 on 3 which is the acceptable side slope for loamy fill material. The width of the crest of the berm is from 8.5 to 11.5 feet which is standard. Auger boring at the west end of the patched section shows good compaction and relatively low moisture content.

Since the previous inspection, the areas of oil slick on lagoons # 1 and # 3 have been removed and the extent of oil cover on lagoon # 2 reduced.

Summary and Recommendation:

The outside slope of the patched area of the berm of lagoon # 2 should have earth added to make the final slope approximately 33 percent (1 on 3) until such time as the waste is removed and the lagoons leveled.

FGL:bmb

cc: Regional Sanitarian, Region I, Norristown
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Mr. Pastor, Norristown
Mr. Cahill, Chester County
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